

# WYOMING RETIREMENT SYSTEM WYOMING STATE HIGHWAY PATROL, GAME & FISH WARDEN AND CRIMINAL INVESTIGATOR RETIREMENT FUND

GASB STATEMENT NOS. 67 AND 68 ACCOUNTING AND FINANCIAL REPORTING FOR PENSIONS

FOR MEASUREMENT DATE AS OF DECEMBER 31, 2014



August 3, 2015

The Board of Trustees Wyoming Retirement System

Dear Board Members:

This report provides information required by the Wyoming Retirement System (WRS) in connection with the Governmental Accounting Standards Board (GASB) Statement No. 67 "Financial Reporting for Pension Plans" and Statement No. 68 "Accounting and Financial Reporting for Pensions".

The actuarial calculations for this report were prepared for the purpose of complying with the requirements of GASB Statements No. 67 and 68. These calculations have been made on a basis that is consistent with our understanding of this Statement.

The calculation of the liability associated with the benefits described in this report was performed for the purpose of satisfying the requirements of GASB Statement No. 67 and GASB Statement No. 68. The calculation of the plan's liability for this report may not be applicable for funding purposes of the plan. A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement No. 67 and No. 68 may produce significantly different results. This report may be provided to parties other than the Wyoming Retirement System ("WRS") only in its entirety and only with the permission of WRS.

This report is based upon information, furnished to us by WRS, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different, please let us know. This information was checked for internal consistency, but it was not otherwise audited.

This report complements the actuarial valuation report that was provided to WRS and should be considered in conjunction with that report. Please see the actuarial valuation report as of January 1, 2014 for additional discussion of the nature of actuarial calculations and more information related to participant data.

To the best of our knowledge, the information contained with this report is accurate and fairly represents the actuarial position of the Wyoming Retirement System. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Leslie L. Thompson is a member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. The signing actuaries are independent of the plan sponsor.

Respectfully submitted,

Leslie L. Thompson

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By \_\_\_\_\_ R. Herm

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# **EXECUTIVE SUMMARY** AS OF DECEMBER 31, 2014

Actuarial Valuation Date		uary 1, 2014
Measurement Date of the Net Pension Liability	December 31, 2014	
Employer's Fiscal Year Ending Date (Reporting Date)	Ju	ne 30, 2015
Membership		
Number of		
- Retirees and Beneficiaries		290
- Inactive, Nonretired Members		52
- Active Members		303
- Total		645
Covered Payroll	\$	21,817,686
Net Pension Liability		
Total Pension Liability	\$	158,023,008
Plan Fiduciary Net Position		124,821,143
Net Pension Liability	\$	33,201,865
Plan Fiduciary Net Position as a Percentage		
of Total Pension Liability		78.989%
Net Pension Liability as a Percentage		
of Covered Payroll		152.179%
Development of the Single Discount Rate		
Single Discount Rate		7.750%
Long-Term Expected Rate of Investment Return		7.750%
Long-Term Municipal Bond Rate*		3.650%
Last year ending December 31 in the 2014 to 2113 projection period		
for which projected benefit payments are fully funded		2113
Total Pension Expense	\$	4,925,101

### Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses

	Deferred Outflows of Resources		 red Inflows Resources
Difference between expected and actual experience	\$	-	\$ -
Changes in assumptions		-	-
Net difference between projected and actual earnings			
on pension plan investments		2,728,230	
Total	\$	2,728,230	\$ -

\*Source: "State & local bonds" rate from Federal Reserve statistical release (H.15) as of December 31, 2014. The statistical release describes this rate as "Bond Buyer Index, general obligation, 20 years to maturity, mixed quality." In describing this index, the Bond Buyer notes that the bonds' average credit quality is roughly equivalent to Moody's Investors Service's Aa2 rating and Standard & Poor's Corp.'s AA.

# **DISCUSSION**

## **Accounting Standard**

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

#### **Financial Statements**

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *statement of changes in fiduciary net position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

#### **Notes to Financial Statements**

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans, to include certain additional information. The list of disclosure items should include:

- a description of the types of benefits provided by the plan, as well as automatic or ad hoc COLAs:
- the type of employees and number of members covered by the pension plan;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- the pension plan's fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability;
- the net pension liability using a discount rate that is 1% higher and 1% lower than used to calculate the total pension liability and net pension liability for financial reporting purposes;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- the composition of the pension plan's board and the authority under which benefit terms may be amended;
- a description of how fair value is determined;
- information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- the annual money-weighted rate of return on pension plan investments for each year.

# **Required Supplementary Information**

GASB Statement No. 67 requires a 10-year fiscal history of:

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

## **Timing of the Valuation**

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of January 1, 2014 and a measurement date of December 31, 2014.

# **Single Discount Rate**

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.750%; the municipal bond rate is 3.650% (based on the weekly rate closest to but not later than the measurement date of the "state & local bonds" rate from Federal Reserve statistical release (H.15)); and the resulting Single Discount Rate is 7.750%.

#### **Effective Date and Transition**

GASB Statement Nos. 67 and 68 are effective for fiscal years beginning after June 15, 2013, and June 15, 2014 respectively, earlier application is encouraged by the GASB.

# SECTION B FINANCIAL STATEMENTS

Auditor's Note – This information is intended to assist in preparation of the financial statements of the Wyoming Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

# PENSION EXPENSE UNDER GASB STATEMENT No. 68 FISCAL YEAR ENDED JUNE 30, 2015

### A. Expense

1. Service Cost 2. Interest on the Total Pension Liability 3. Current-Period Benefit Changes 4. Employee Contributions (made negative for addition here) 5. Projected Earnings on Plan Investments (made negative for addition here) 6. Pension Plan Administrative Expense 7. Other Changes in Plan Fiduciary Net Position 8. Recognition of Outflow (Inflow) of Resources due to Liabilities -  \$ 5,276,236 11,490,234 21,490,234 32,310,309 33,10,309 33,10,309 34,10,309 35,210,309 36,479 37,000,000,000,000,000,000 37,000,000,000,000,000,000 37,000,000,000,000,000,000,000 37,000,000,000,000,000,000,000 37,000,000,000,000,000,000,000,000 37,000,000,000,000,000,000,000,000 37,000,000,000,000,000,000,000,000,000,0	ecognition of Outflow (Inflow) of Resources due to Assets 682,058
2. Interest on the Total Pension Liability11,490,2343. Current-Period Benefit Changes04. Employee Contributions (made negative for addition here)(3,310,309)5. Projected Earnings on Plan Investments (made negative for addition here)(9,310,996)6. Pension Plan Administrative Expense96,479	
2. Interest on the Total Pension Liability11,490,2343. Current-Period Benefit Changes04. Employee Contributions (made negative for addition here)(3,310,309)5. Projected Earnings on Plan Investments (made negative for addition here)(9,310,996)	ther Changes in Plan Fiduciary Net Position 1,399
2. Interest on the Total Pension Liability11,490,2343. Current-Period Benefit Changes04. Employee Contributions (made negative for addition here)(3,310,309)	ension Plan Administrative Expense 96,479
2. Interest on the Total Pension Liability11,490,2343. Current-Period Benefit Changes0	rojected Earnings on Plan Investments (made negative for addition here) (9,310,996)
2. Interest on the Total Pension Liability 11,490,234	mployee Contributions (made negative for addition here) (3,310,309)
	urrent-Period Benefit Changes 0
1. Service Cost \$ 5,276,236	terest on the Total Pension Liability 11,490,234
	s 5,276,236 \$ 5,276,236

<sup>\*</sup>In accordance with GASB 71, employers may need to illustrate contributions made from January 1, 2015 through June 30, 2015.

# STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT REPORTING PERIOD

# FISCAL YEAR ENDED JUNE 30, 2015

A. Outflows (Inflows) of Resources due to Liabilities	
1. Difference between expected and actual experience	
of the Total Pension Liability (gains) or losses	\$ -
2. Assumption Changes (gains) or losses	\$ -
3. Recognition period for Liabilities: Average of the	
expected remaining service lives of all employees {in years}	1.0000
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the	
Difference between expected and actual experience	
of the Total Pension Liability	\$ -
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for	
Assumption Changes	\$ -
6. Outflow (Inflow) of Resources to be recognized in the current pension expense	
due to Liabilities	\$ 
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the	
Difference between expected and actual experience	
of the Total Pension Liability	\$ -
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for	
Assumption Changes	\$ -
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses	
due to Liabilities	\$ -
B. Outflows (Inflows) of Resources due to Assets	
1. Net difference between projected and actual earnings on	
pension plan investments (gains) or losses	\$ 3,410,288
2. Recognition period for Assets {in years}	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense	
due to Assets	\$ 682,058
3. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses	
due to Assets	\$ 2,728,230

# STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT AND PRIOR REPORTING PERIODS

# FISCAL YEAR ENDED JUNE 30, 2015

#### A. Outflows and Inflows of Resources due to Liabilities and Assets to be recognized in Current Pension Expense

	O	utflows	Inf	lows	No	et Outflows
	of R	esources	of Res	sources	of	Resources
1. due to Liabilities	\$	-	\$	0	\$	=
2. due to Assets		682,058				682,058
3. Total	\$	682,058	\$	0	\$	682,058

#### B. Outflows and Inflows of Resources by Source to be recognized in Current Pension Expense

	Outflows	Inflows	Net Outflows
	of Resources	of Resources	of Resources
1. Differences between expected and actual experience	\$ -	\$ 0	\$ -
2. Assumption Changes	-	-	0
3. Net Difference between projected and actual			
earnings on pension plan investments	682,058		682,058
4. Total	\$ 682,058	\$ 0	\$ 682,058

#### C. Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses

	Deferred Outflows of Resources		Deferred Inflows of Resources		Net Deferred Outflows of Resources	
1. Differences between expected and actual experience	\$	-	\$	0	\$	-
2. Assumption Changes		-		-		0
3. Net Difference between projected and actual						
earnings on pension plan investments		2,728,230		-		2,728,230
4. Total	\$	2.728.230	\$	0	\$	2,728,230

#### D. Deferred Outflows and Deferred Inflows of Resources by Year to be recognized in Future Pension Expenses

Year Ending	Net De	ferred Outflows
June 30	of	Resources
2016	\$	682,058
2017		682,058
2018		682,058
2019		682,056
2020		-
Thereafter		0
Total	\$	2,728,230

# STATEMENT OF FIDUCIARY NET POSITION AS OF DECEMBER 31, 2014

	 2014
Assets	
Cash and Deposits	\$ 7,552,806
Receivables	
Accounts Receivable - Sale of Investments	\$ 67,553
Accrued Interest and Other Dividends	324,228
Contributions	538,731
Accounts Receivable - Other	 18,340,255
Total Receivables	\$ 19,270,767
Investments	
Fixed Income	\$ 25,088,531
Domestic Equities	63,355,474
International Equities	-
Real Estate	-
Other	39,353,392
Total Investments	\$ 127,797,397
Total Assets	\$ 154,620,970
Liabilities	
Payables	
Accounts Payable - Purchase of Investments	\$ 1,133,442
Accrued Expenses	217,572
Accounts Payable - Other	 28,448,813
Total Liabilities	\$ 29,799,827
Net Position Restricted for Pensions	\$ 124,821,143

# STATEMENT OF CHANGES IN FIDUCIARY NET POSITION FOR YEAR ENDED DECEMBER 31, 2014

	2014
Additions	
Contributions	
Employer	\$ 3,006,277
Employee	3,150,559
Other	 230,988
Total Contributions	\$ 6,387,824
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 3,659,010
Interest and Dividends	3,033,799
Less Investment Expense	 (792,101)
Net Investment Income	\$ 5,900,708
Other	\$ -
Total Additions	\$ 12,288,532
Deductions	
Benefit Payments, including Refunds of Employee Contributions	\$ 8,732,855
Pension Plan Administrative Expense	96,479
Other	1,399
Total Deductions	\$ 8,830,733
Net Increase in Net Position	\$ 3,457,799
Net Position Restricted for Pensions	
Beginning of Year	\$ 121,363,344
End of Year	\$ 124,821,143

# **SECTION C**REQUIRED SUPPLEMENTARY INFORMATION

Auditor's Note – This information is intended to assist in preparation of the financial statements of the Wyoming Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

# SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS CURRENT PERIOD

# FISCAL YEAR ENDED JUNE 30, 2015

A. Total pension liability	
1. Service Cost	\$ 5,276,236
2. Interest on the Total Pension Liability	11,490,234
3. Changes of benefit terms	0
4. Difference between expected and actual experience of the Total Pension Liability	-
5. Changes of assumptions	0
6. Benefit payments, including refunds	
of employee contributions	 (8,732,855)
7. Net change in total pension liability	\$ 8,033,615
8. Total pension liability – beginning	 149,989,393
9. Total pension liability – ending	\$ 158,023,008
B. Plan fiduciary net position	
1. Contributions – employer	\$ 3,006,277
2. Contributions – employee	3,150,559
3. Net investment income	5,900,708
4. Benefit payments, including refunds	
of employee contributions	(8,732,855)
5. Pension Plan Administrative Expense	(96,479)
6. Other	 229,589
7. Net change in plan fiduciary net position	\$ 3,457,799
8. Plan fiduciary net position – beginning	 121,363,344
9. Plan fiduciary net position – ending	\$ 124,821,143
C. Net pension liability	\$ 33,201,865
D. Plan fiduciary net position as a percentage	
of the total pension liability	78.99%
E. Covered-employee payroll	\$ 21,817,686
F. Net pension liability as a percentage of covered employee payroll	152.18%

### **Notes to Schedule:**

Other changes to Plan Fiduciary Net Position may include member redeposits, member service purchase contributions, other funding sources, and depreciation expenses.

# SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS MULTIYEAR

Measurement date as of December 31,		2014			
Total Pension Liability					
Service Cost	\$	5,276,236			
Interest on the Total Pension Liability		11,490,234			
Benefit Changes		-			
Difference between Expected and					
Actual Experience		-			
Assumption Changes		-			
Benefit Payments		(8,364,762)			
Refunds		(368,093)			
Net Change in Total Pension Liability		8,033,615			
Total Pension Liability - Beginning		149,989,393			
Total Pension Liability - Ending (a)	\$	158,023,008			
Plan Fiduciary Net Position					
Employer Contributions	\$	3,006,277			
Employee Contributions		3,150,559			
Pension Plan Net Investment Income		5,900,708			
Benefit Payments		(8,364,762)			
Refunds		(368,093)			
Pension Plan Administrative Expense		(96,479)			
Other		229,589			
Net Change in Plan Fiduciary Net Position		3,457,799			
Plan Fiduciary Net Position - Beginning		121,363,344			
Plan Fiduciary Net Position - Ending (b)	\$	124,821,143			
Net Pension Liability - Ending (a) - (b)	\$	33,201,865			
Plan Fiduciary Net Position as a Percentage					
of Total Pension Liability		78.99%			
Covered Employee Payroll	\$	21,817,686			
Projected Valuation Payroll	\$	22,744,938			
Net Pension Liability as a Percentage					
of Covered Employee Payroll		152.18%			
Notes to Schedule:					
Other changes to Plan Fiduciary Net Position may include member		-			
member service purchase contributions, other funding sources, and					

depreciation expenses.



# SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION SCHEDULE OF THE NET PENSION LIABILITY MULTIYEAR

# Last 10 Plan Years (which may be built prospectively)

Total				Net Pension Liability		
FY Ending	Pension	Plan Net	Net Pension	as a % of Total	Covered	as a % of
December 31,	Liability	Position	Liability	Pension Liability	Payroll	Covered Payroll
2014	\$ 158.023.008	\$ 124.821.143	\$ 33,201,865	78.99%	\$ 21.817.686	152.18%

# SCHEDULE OF CONTRIBUTIONS MULTIYEAR LAST 10 PLAN YEARS

<b>Actuarially Contribution</b>					<b>Actual Contribution</b>				
FY Ending	D	etermined		Actual	De	eficiency		Covered	as a % of
December 31,	Co	ontribution	Co	ntribution*		Excess)		Payroll	Covered Payroll
2014	Φ.	4.027.601	Φ.	2.055.515	Φ.	0.00 1.00	Φ.	21 017 606	1.4.1107
2014	\$	4,037,681	\$	3,077,515	\$	960,166	\$	21,817,686	14.11%

<sup>\*</sup> Includes other funding sources but excludes member redeposits and member service purchase contributions.

# NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date: January 1, 2014

Notes Actuarially determined contribution rates are calculated as of July 1 each year

for implementation the following fiscal year.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method Entry Age Normal

Amortization Method Level Percentage of Payroll, Open

Remaining Amortization Period 30 years

Asset Valuation Method 5-Year smoothed market

Inflation 3.25%

Salary Increases 4.25% to 8.00% including inflation

Investment Rate of Return 7.75%

Retirement Age Experience-based table of rates that are specific to the type of eligibility

condition. Last updated for the 2014 valuation pursuant to an experience study

of the period 2007 - 2011.

Post-Retirement Mortality RP-2000 Combined Mortality Table, generational projected with Scale BB.

Males: No set back with a 104% multiplier.

Females: Set forward 1 year with a 90% multiplier.

Pre-Retirement Mortality RP-2000 Combined Mortality Table, generational projected with Scale BB.

Males: Set back 4 years with a 104% multiplier. Females: Set back 3 years with a 90% multiplier.

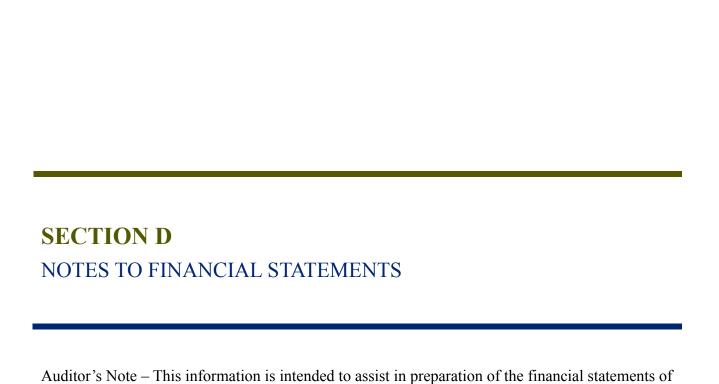
Other Information:

Notes There were no benefit changes during the year.

# SCHEDULE OF INVESTMENT RETURNS MULTIYEAR LAST 10 PLAN YEARS

FY Ending	Annual		
December 31,	Return <sup>1</sup>		
2014	4.70 %		

<sup>&</sup>lt;sup>1</sup> Annual money-weighted rate of return, net of investment expenses.



the Wyoming Retirement System. Financial statements are the responsibility of management, subject to the auditor's review. Please let us know if the auditor recommends any changes.

## **Long-Term Expected Return on Plan Assets**

The assumed rate of investment return was adopted by the plan's trustees after considering input from the plan's investment consultant and actuary. Additional information about the assumed rate of investment return is included in our actuarial valuation report as of January 1, 2014. In addition, a five year experience study was completed as of December 31, 2011 and this study provides a detailed analysis regarding recommendations on the long term rates for inflation and the real rate of return. The assumed rate of investment return of 7.75% falls within a reasonable range of the long-term expected rate of return.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These real rates of return are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. For each major asset class that is included in the pension plan's target asset allocation as of January 1, 2014, these best estimates are summarized in the following table:

### ASSET ALLOCATION

		Long-Term Expected
Asset Class	Target Allocation	Real Rate of Return
Cash	2.50%	0.50%
Fixed Income	15.00%	0.80%
Equity	55.00%	5.26%
Marketable Alternatives	15.50%	3.79%
Private Markets	12.00%	5.76%
Total	100.00%	

The figures in the above table were supplied by NEPC; the investment consulting firm to the Wyoming Retirement System. Gabriel, Roeder, Smith and Company does not provide investment advice.

## **Single Discount Rate**

A Single Discount Rate of 7.750% was used to measure the total pension liability. This Single Discount Rate was based on the expected rate of return on pension plan investments of 7.750%. The projection of cash flows used to determine this Single Discount Rate assumed that plan member and employer contributions will be made at the current scheduled contribution rates. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

# **Sensitivity of Results**

Regarding the sensitivity of the net pension liability to changes in the Single Discount Rate, the following presents the plan's net pension liability, calculated using a Single Discount Rate of 7.750%, as well as what the plan's net pension liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

# SENSITIVITY OF NET PENSION LIABILITY TO THE SINGLE DISCOUNT RATE ASSUMPTION

	Current Single Discount	
1% Decrease	Rate Assumption	1% Increase
6.750%	7.750%	8.750%
\$52,298,904	\$33,201,865	\$17,264,215

# **SUMMARY OF POPULATION STATISTICS**

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	290
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	52
Active Plan Members	303
Total Plan Members	645



#### SUMMARY OF PLAN PROVISIONS

**Covered Members** Any person who is employed by the Wyoming state highway patrol

division as a sworn law enforcement officer;

Any person who is commissioned as a full time law enforcement officer

of the Wyoming state game and fish department;

Any criminal investigator as defined under W.S. 9-3-602(a)(iv);

Any person designated and appointed as capitol police under W.S. 9-1-

612 and qualified pursuant to W.S. 9-1-701 through 9-1-707.

**Final Average Salary** Employee's average annual salary for the highest paid three continuous

years of service.

**Service Retirement** 

Eligibility Age 50 with six or more years of service.

Monthly Benefit 2.50% of employee's highest three-year average salary for each year of

credited service, not to exceed 75.0% of final average salary.

Vesting Any employee who has left employment with six or more years of

service, and who has not withdrawn accumulated contributions, is eligible to receive the above benefit or can elect to receive a lump-sum refund of contributions with interest. An employee who terminates with less than six years of service is only eligible for the lump-sum benefit.

**Duty Disability Retirement** 

Eligibility No age or service eligibility requirements. Partial or total disability

resulting from an individual and specific act, the type of which would normally occur only while employed as an employee, or as otherwise

defined under W.S. 9-3-611(a).

Monthly Benefit 62.5% of Final Average Salary.

**Non-duty Disability Retirement** 

Eligibility 10 years of credited service. Partial or total disability, but not eligible

for duty disability.

Monthly Benefit 50.0% of Final Average Salary.

## **Pre-retirement Duty Death Benefit**

Eligibility No age or service requirements.

Monthly Benefit 50% of member's final actual salary, payable to the surviving spouse

plus 5% of the member's final actual salary for each unmarried child under 18. Payment shall not exceed the member's final actual salary.

### **Pre-retirement Non-duty Death Benefit**

Eligibility No age or service requirements.

Monthly Benefit 2% for each year of credited service, not to exceed 50%, of the

member's final actual salary payable to the surviving spouse plus 5% of the member's final actual salary for each unmarried child under 18. Payment shall not exceed 60% of the member's final actual salary.

#### **Post-retirement Death Benefit**

Monthly Benefit 50% of the benefit payable prior to the member's death plus 5% of the

member's final actual salary for each unmarried child under 18.

Payment shall not exceed 60% of the member's final actual salary.

# **Contributions**

Employee 13.54% of salary. The employer may subsidize all or part of the

employee contributions. Effective July 1, 2014, the employee contribution rate increases to 14.56% of salary. The Employer may subsidize all except 1.62% of the employee contributions, which shall

be paid through salary reductions.

Employer 12.96% of salary. Effective July 1, 2014, the employer contribution rate

increases to 13.86% of salary and will increase again to 14.88% effective

July 1, 2015.

Interest 5.50% annually.

Cost-of-Living Improvements W.S. 9-3-454 prohibits benefit changes, including cost-of-living

increases, unless the funded ratio stays above 100% plus a margin for

adverse experience throughout the life of the benefit change.

# **Optional Forms of Payment**

Option 1 (normal form) Monthly benefit for life. Upon death, 50% of the benefit continues to be

paid to the beneficiary.

Option 2 Monthly benefit for life. Upon death, 100% of the benefit continues to be

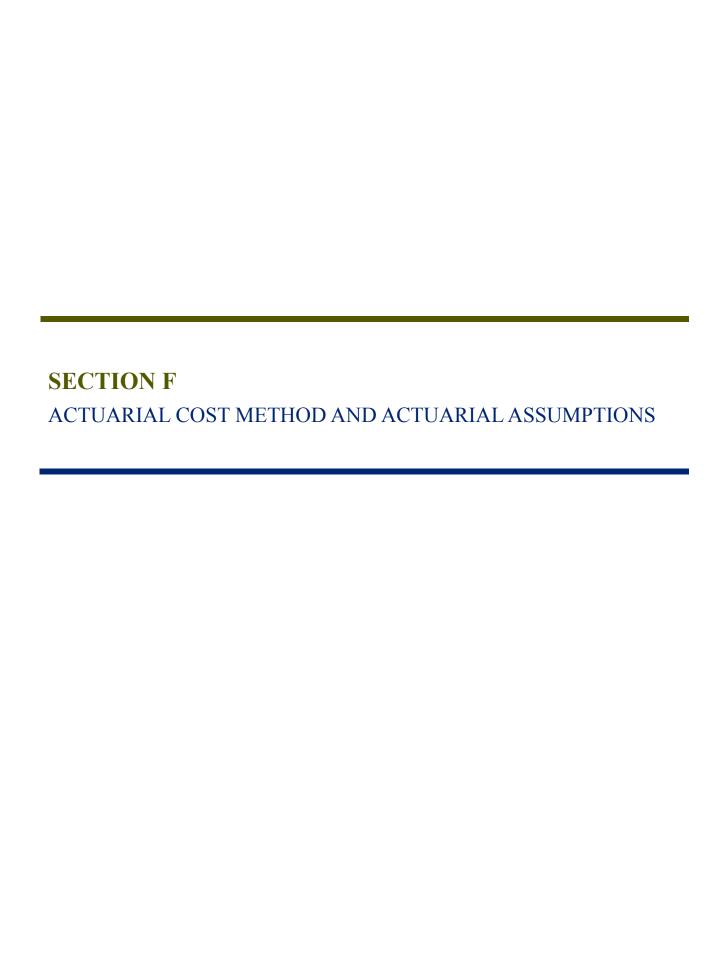
paid to the beneficiary.

Option 3 Not available under this plan.

Option 4 Monthly benefit for life with a guarantee of 120 monthly payments

Option 5 The largest possible monthly benefit payable for life with no lump-sum

death benefit.



# **Summary of Actuarial Assumptions and Methods**

The following methods and assumptions were used in preparing the January 1, 2014 actuarial valuation report.

# 1. Valuation Date

The valuation date for any given year is January 1<sup>st</sup>, the first day of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

# 2. Actuarial Cost Method

The actuarial valuation uses the Entry Age Normal (EAN) actuarial cost method, amortized as a level percentage of payroll. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) the rate that will amortize the unfunded actuarial accrued liability (UAAL).

- a. The valuation is prepared on the projected benefit basis, under which the present value, at the investment return rate assumed to be earned in the future (currently 7.75%), of each participant's expected benefit payable at retirement or death is determined, based on his/her age, service, sex and compensation. The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his/her terminating with a service, disability, or survivor's benefit. Future salary increases are also anticipated. The present value of the expected benefits payable for the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Fund on account of the present group of participants and beneficiaries.
- b. The employer contributions required to support the benefits of the Fund are determined using a level funding approach, and consist of a normal cost contribution and an accrued liability contribution.
- c. The normal cost contribution is determined using the "entry age normal" actuarial cost method. Under this method, a calculation is made to determine the average uniform and constant percentage rate of employer contribution which, if applied to the compensation of each new participant during the entire period of his/her anticipated covered service, would be required to meet the cost of all benefits payable on his/her behalf based on the benefits provisions applicable for the individual member.

d. The unfunded actuarial accrued liability contributions are determined by subtracting the actuarial value of assets from the actuarial accrued liability and amortizing the result over 30 years from the valuation date.

# 3. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income, with interest, dividends, and other income recognized immediately. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses. An adjustment is made if the actuarial value is not within 20% of the Market Value. For any year following a year in which the 20% of market value adjustment was applied, the actuarial value is determined as if the adjustment was not applied in the previous year.

## 4. Economic Assumptions

#### a. Investment return

7.75% per year, compounded annually, composed of an assumed 3.25% inflation rate and a 4.50% net real rate of return. This rate represents the assumed return, net of investment expenses.

# b. Salary increase rate

Age	Rate
20	6.00%
25	6.00%
30	5.75%
35	5.75%
40	5.50%
45	5.50%
50	5.50%
55	5.25%
60	4.25%

c. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 4.25% per year. This increase rate is solely due to the effect of inflation on salaries, with no allowance for future membership growth.

# 5. <u>Demographic Assumptions</u>

# a. Mortality

Healthy Pre-Retirement Mortality:

RP-2000 Combined Mortality Table, fully generational, projected with Scale BB

Males: Set back 4 years with a multiplier of 104%

Females: Set back 3 years with a multiplier of 90%

Healthy Post-Retirement Mortality:

RP-2000 Combined Mortality Table, fully generational, projected with Scale BB

Males: No set back with a multiplier of 104%

Females: Set forward 1 year with a multiplier of 90%

Disabled Mortality:

RP-2000 Disabled Mortality Table, fully generational, projected with Scale BB

Males: Set forward 5 years with a multiplier of 120% Females: Set forward 5 years with a multiplier of 120%

	Pre-Retirement Post-Retiremen		tirement	Disa	bled	
		Proje	le BB			
Age	Male	Female	Male	Female	Male	Female
20	0.03%	0.02%	0.03%	0.02%	2.60%	0.86%
25	0.04%	0.02%	0.04%	0.02%	2.60%	0.86%
30	0.04%	0.02%	0.04%	0.03%	2.60%	0.86%
35	0.05%	0.03%	0.08%	0.04%	2.60%	0.86%
40	0.08%	0.05%	0.11%	0.07%	2.60%	0.86%
45	0.11%	0.07%	0.15%	0.11%	3.33%	1.33%
50	0.16%	0.11%	0.21%	0.16%	4.08%	1.85%
55	0.24%	0.17%	0.36%	0.26%	4.57%	2.28%
60	0.42%	0.28%	0.64%	0.45%	5.08%	2.84%
65	0.71%	0.51%	1.12%	0.83%	6.08%	3.81%
70	1.25%	0.92%	1.87%	1.41%	7.97%	5.29%
75			3.18%	2.35%	10.62%	7.33%
80			5.42%	3.86%	13.75%	10.15%
85			9.32%	6.56%	18.85%	14.39%
90			16.34%	11.31%	29.51%	21.46%
95			25.57%	17.23%	39.64%	27.32%
100			34.36%	21.43%	47.75%	35.17%

100% of active deaths are assumed to be duty-related

# b. Disability and Withdrawal

	Dis ability -		With	drawal
			Ultimate	
Age	Male	Female	Male	Female
20	0.10%	0.10%	11.00%	11.00%
25	0.10%	0.10%	10.00%	10.00%
30	0.23%	0.23%	5.00%	5.00%
35	0.39%	0.39%	4.00%	4.00%
40	0.57%	0.57%	3.50%	3.50%
45	0.73%	0.73%	2.50%	2.50%
50	0.75%	0.75%	2.00%	2.00%
55	0.75%	0.75%	1.00%	1.00%
60	0.75%	0.75%	0.50%	0.50%

100% of active disabilities are assumed to be duty-related

# c. Retirement Rates

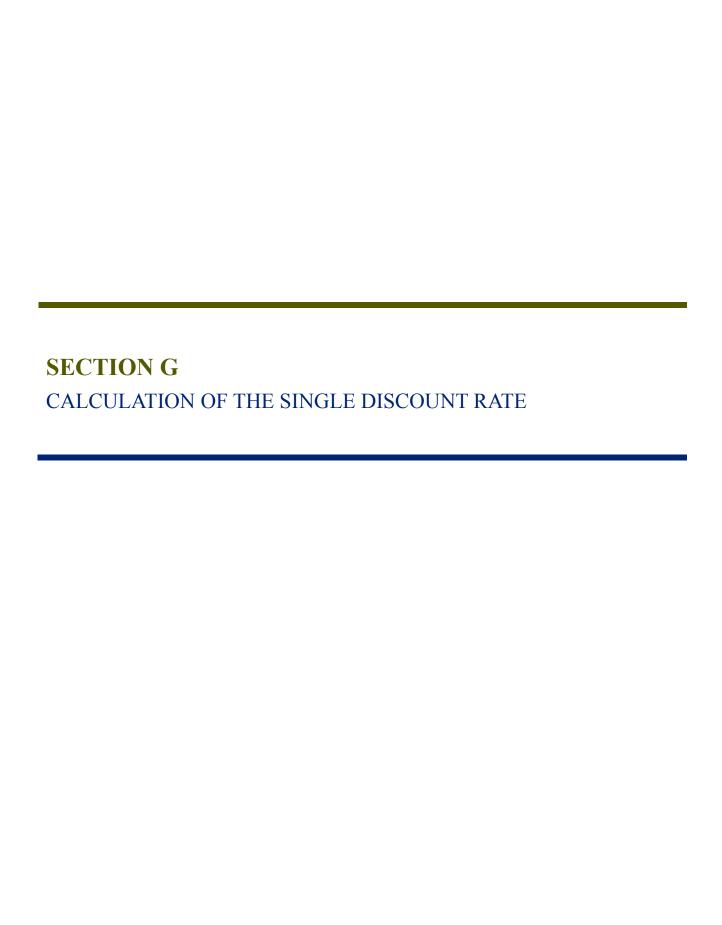
Age	Rate	Age	Rate
50	15%	56	10%
51	10%	57	15%
52	10%	58	20%
53	10%	59	20%
54	10%	60	40%
55	10%	61	40%
		62	100%

### MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

- a. Percent married: 85.00% of employees are assumed to be married. (No beneficiaries other than the spouse assumed.)
- b. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.
- c. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity.
- d. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.
- e. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available, which for this plan is age 50.
- f. No benefit data is available for members entitled to deferred benefits. The present value of benefits expected to be paid to vested inactive non-retired members is approximated using the data provided.
- g. There will be no recoveries once disabled.
- h. Administrative expenses: Average of actual expenses for the prior two years, with each year projected at 6.50% to the valuation date.
- i. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported pay represents amount paid to members during the year ended on the valuation date.
- j. Decrement timing: Decrements of all types are assumed to occur mid-year.
- k. Eligibility testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
- 1. Incidence of contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in the report, and the actual payroll payable at the time contributions are made.
- m. Benefit service: All members are assumed to accrue one year of service each year.

# **EXPERIENCE ANALYSIS**

An experience study was conducted on behalf of all WRS' plans covering the five year period ending December 31, 2011. That study provided a detailed analysis concerning the development of the long term inflation rate, real rate of return and discount rate. The study also analyzed each major actuarial assumption (e.g. mortality, salary increases, retirement, termination and disability) and proposed assumptions consistent with the findings. For further information on the experience study and related assumption recommendation, the reader is directed to request the December 31, 2011 Wyoming Retirement System Experience Study.



#### CALCULATION OF THE SINGLE DISCOUNT RATE

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a "risk-free" rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 7.750%; the municipal bond rate is 3.650%; and the resulting Single Discount Rate is 7.750%.

The tables in this section provide background for the development of the Single Discount Rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

# SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF CONTRIBUTIONS ENDING DECEMBER 31 FOR 2014 TO 2063

Pavi	roll for	Payroll for Future	Total Employee	Contributions from	Employer Contributions for Current	Contributions Related to Payroll of Future	Total
•	Employees	Employees	Payroll	Current Employees	Employees	Employees	Contributions
	(a)	(b)= $\max(0,(c)-(a))$	(c)	(d)	(e)=(a)*ER%	(f) = (b) * netER%	(g)=(d)+(e)+(f)
2014 \$	22,437,772	\$ 307,166	\$ 22,744,938	\$ 3,150,559	\$ 3,225,192	\$ 12,073	\$ 6,387,824
2015	22,176,144	1,535,454	23,711,598	3,228,847	3,186,712	76,012	6,491,571
2016	21,955,542	2,763,799	24,719,341	3,196,727	3,266,985	162,442	6,626,154
2017	21,641,616	4,128,297	25,769,913	3,151,019	3,220,272	241,543	6,612,834
2018	21,268,230	5,596,904	26,865,134	3,096,654	3,164,713	326,184	6,587,551
2019	20,845,587	7,161,315	28,006,902	3,035,118	3,101,823	415,949	6,552,890
2020	20,462,605	8,734,590	29,197,195	2,979,355	3,044,836	506,052	6,530,243
2021	20,137,117	10,300,959	30,438,076	2,931,964	2,996,403	595,699	6,524,066
2022	19,791,199	11,940,495	31,731,694	2,881,599	2,944,930	689,777	6,516,306
2023	19,381,459	13,698,832	33,080,291	2,821,940	2,883,961	791,137	6,497,038
2024	18,868,535	15,617,668	34,486,203	2,747,259	2,807,638	902,340	6,457,237
2025	18,295,478	17,656,389	35,951,867	2,663,822	2,722,367	1,021,060	6,407,249
2026	17,691,720	19,788,101	37,479,821	2,575,914	2,632,528	1,145,905	6,354,347
2027	17,026,327	22,046,386	39,072,713	2,479,033	2,533,518	1,279,110	6,291,661
2028	16,303,408	24,429,895	40,733,303	2,373,776	2,425,947	1,420,814	6,220,537
2029	15,495,964	26,968,504	42,464,468	2,256,212	2,305,799	1,573,033	6,135,044
2030	14,678,179	29,591,029	44,269,208	2,137,143	2,184,113	1,731,894	6,053,150
2031	13,859,505	32,291,144	46,150,649	2,017,944	2,062,294	1,897,245	5,977,483
2032	13,018,693	35,093,359	48,112,052	1,895,522	1,937,181	2,070,675	5,903,378
2033	12,135,892	38,020,922	50,156,814	1,766,986	1,805,821	2,253,641	5,826,448
2034	11,167,754	41,120,725	52,288,479	1,626,025	1,661,762	2,449,141	5,736,928
2035	10,142,306	44,368,433	54,510,739	1,476,720	1,509,175	2,655,840	5,641,735
2036	9,069,031	47,758,414	56,827,445	1,320,451	1,349,472	2,873,400	5,543,323
2037	8,026,741	51,215,870	59,242,611	1,168,693	1,194,379	3,097,203	5,460,275
2038	7,037,106	54,723,316	61,760,422	1,024,603	1,047,121	3,326,037	5,397,761
2039	6,080,102	58,305,138	64,385,240	885,263	904,719	3,561,214	5,351,196
2040	5,181,932	61,939,681	67,121,613	754,489	771,072	3,800,776	5,326,337
2041	4,364,123	65,610,159	69,974,282	635,416	649,382	4,043,348	5,328,146
2042	3,616,242	69,331,947	72,948,189	526,525	538,097	4,289,285	5,353,907
2043	2,937,533	73,110,954	76,048,487	427,705	437,105	4,538,890	5,403,700
2044	2,267,976	77,012,572	79,280,548	330,217	337,475	4,795,891	5,463,583
2045	1,655,165	80,994,806	82,649,971	240,992	246,289	5,057,464	5,544,745
2046	1,125,989	85,036,606	86,162,595	163,944	167,547	5,321,971	5,653,462
2047	699,599	89,124,906	89,824,505	101,862	104,100	5,588,402	5,794,364
2048	398,987	93,243,059	93,642,046	58,092	59,369	5,855,255	5,972,716
2049	211,198	97,410,635	97,621,833	30,750	31,426	6,123,584	6,185,760
2050	96,806	101,673,955	101,770,761	14,095	14,405	6,395,876	6,424,376
2051	39,301	106,056,717	106,096,018	5,722	5,848	6,673,778	6,685,348
2052	4,846	110,600,253	110,605,099	706	721	6,959,934	6,961,361
2053	-	115,305,816	115,305,816	-	-	7,254,927	7,254,927
2054	-	120,206,313	120,206,313	-	-	7,561,445	7,561,445
2055	-	125,315,081	125,315,081	-	-	7,880,809	7,880,809
2056	-	130,640,972	130,640,972	-	-	8,213,985	8,213,985
2057	-	136,193,213	136,193,213	-	-	8,561,592	8,561,592
2058	-	141,981,425	141,981,425	-	-	8,924,289	8,924,289
2059	-	148,015,636	148,015,636	-	-	9,302,696	9,302,696
2060	-	154,306,301	154,306,301	-	-	9,697,421	9,697,421
2061	-	160,864,319	160,864,319	-	-	10,109,106	10,109,106
2062	-	167,701,053	167,701,053	-	-	10,538,433	10,538,433
2063	-	174,828,348	174,828,348	-	-	10,986,174	10,986,174

# SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF CONTRIBUTIONS ENDING DECEMBER 31 FOR 2064 TO 2113

	Payroll for	Payroll for Future	Total Employee	Contributions from	Employer Contributions for Current	Employer Contributions Related to Payroll of Future	Total
Year	Current Employees	Employees	Payroll	<b>Current Employees</b>	Employees	Employees	Contributions
	(a)	(b)=max(0,(c)-(a))	(c)	(d)	(e)=(a)*ER%	(f) = (b)*netER%	(g)=(d)+(e)+(f)
2064	\$ -	\$ 182,258,553	\$ 182,258,553	\$ -	\$ -	\$ 11,453,138	\$ 11,453,138
2065	-	190,004,542	190,004,542	-	-	11,940,153	11,940,153
2066	-	198,079,735	198,079,735	-	-	12,448,064	12,448,064
2067	-	206,498,124	206,498,124	-	-	12,977,719	12,977,719
2068	-	215,274,294	215,274,294	-	-	13,530,006	13,530,006
2069	-	224,423,451	224,423,451	-	-	14,105,828	14,105,828
2070	-	233,961,448	233,961,448	-	-	14,706,123	14,706,123
2071	-	243,904,810	243,904,810	-	-	15,331,893	15,331,893
2072	-	254,270,764	254,270,764	-	-	15,984,193	15,984,193
2073	-	265,077,271	265,077,271	-	-	16,664,164	16,664,164
2074	-	276,343,055	276,343,055	-	-	17,372,983	17,372,983
2075	-	288,087,635	288,087,635	-	-	18,111,878	18,111,878
2076	-	300,331,359	300,331,359	-	-	18,882,100	18,882,100
2077	-	313,095,442	313,095,442	-	-	19,684,944	19,684,944
2078	-	326,401,998	326,401,998	-	-	20,521,756	20,521,756
2079	-	340,274,083	340,274,083	-	-	21,393,963	21,393,963
2080	-	354,735,732	354,735,732	-	-	22,303,071	22,303,071
2081	-	369,812,001	369,812,001	-	-	23,250,678	23,250,678
2082	-	385,529,011	385,529,011	-	-	24,238,451	24,238,451
2083	-	401,913,994	401,913,994	-	-	25,268,145	25,268,145
2084	-	418,995,339	418,995,339	-	-	26,341,575	26,341,575
2085	-	436,802,641	436,802,641	-	-	27,460,626	27,460,626
2086	-	455,366,753	455,366,753	-	-	28,627,242	28,627,242
2087	-	474,719,840	474,719,840	-	-	29,843,452	29,843,452
2088	-	494,895,433	494,895,433	-	-	31,111,364	31,111,364
2089	-	515,928,489	515,928,489	-	-	32,433,194	32,433,194
2090	-	537,855,450	537,855,450	-	-	33,811,247	33,811,247
2091	-	560,714,307	560,714,307	-	-	35,247,940	35,247,940
2092 2093	-	584,544,665 609,387,813	584,544,665 609,387,813	-	-	36,745,779 38,307,370	36,745,779 38,307,370
2093	-	635,286,795	635,286,795	-	-	39,935,422	39,935,422
2094	-	662,286,484	662,286,484	-	-	41,632,749	41,632,749
2093	-	690,433,660	690,433,660	-	-	43,402,282	43,402,282
2090	-	719,777,091	719,777,091	-	-	45,247,077	45,247,077
2097	-	750,367,617	750,367,617	_	-	47,170,316	47,170,316
2098	-	782,258,241	782,258,241	_	-	49,175,323	49,175,323
2100	_	815,504,216	815,504,216		_	51,265,561	51,265,561
2101		850,163,145	850,163,145			53,444,639	53,444,639
2102	_	886,295,079	886,295,079	_	_	55,716,324	55,716,324
2103	_	923,962,620	923,962,620	_	_	58,084,537	58,084,537
2104	_	963,231,031	963,231,031	_	_	60,553,372	60,553,372
2105	_	1,004,168,350	1,004,168,350	_	_	63,127,094	63,127,094
2106	_	1,046,845,505	1,046,845,505	_	_	65,810,155	65,810,155
2107	-	1,091,336,439	1,091,336,439	-	-	68,607,199	68,607,199
2108	-	1,137,718,238	1,137,718,238	-	-	71,523,069	71,523,069
2109	-	1,186,071,263	1,186,071,263	-	-	74,562,816	74,562,816
2110	-	1,236,479,292	1,236,479,292	-	-	77,731,711	77,731,711
2111	-	1,289,029,662	1,289,029,662	_	-	81,035,244	81,035,244
2112	-	1,343,813,423	1,343,813,423	-	-	84,479,144	84,479,144
2113	-	1,400,925,493	1,400,925,493	-	-	88,069,381	88,069,381

### SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION OF PLAN FIDUCIARY NET POSITION ENDING DECEMBER 31 FOR 2014 TO 2063

Projected Beginning Year Plan Net Position		inning Total Projected		Projected Administrative Expenses	Projected Investment Earnings at 7.750%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2014	\$ 121,363,344	\$ 6,387,824	\$ 8,732,855	\$ 97,878	\$ 5,900,708	\$ 124,821,143
2015	124,821,143	6,491,571	9,059,651	109,073	9,571,835	131,715,824
2016	131,715,824	6,626,154	9,524,148	112,618	10,093,492	138,798,704
2017	138,798,704	6,612,834	10,042,124	116,278	10,622,072	145,875,208
2018	145,875,208	6,587,551	10,599,774	120,057	11,148,191	152,891,119
2019	152,891,119	6,552,890	11,169,636	123,959	11,668,787	159,819,200
2020	159,819,200	6,530,243	11,715,706	127,988	12,183,934	166,689,683
2021	166,689,683	6,524,066	12,274,186	132,148	12,694,766	173,502,181
2022	173,502,181	6,516,306	12,833,450	136,443	13,201,009	180,249,602
2023	180,249,602	6,497,038	13,436,578	140,877	13,700,097	186,869,283
2024	186,869,283	6,457,237	14,130,066	145,456	14,185,064	193,236,062
2025	193,236,062	6,407,249	14,851,837	150,183	14,648,962	199,290,252
2026	199,290,252	6,354,347	15,551,459	155,064	15,089,360	205,027,436
2027	205,027,436	6,291,661	16,288,454	160,104	15,503,390	210,373,930
2028	210,373,930	6,220,537	17,073,110	165,307	15,885,003	215,241,052
2029	215,241,052	6,135,044	17,931,891	170,679	16,226,093	219,499,619
2030	219,499,619	6,053,150	18,733,142	176,226	16,522,337	223,165,738
2031	223,165,738	5,977,483	19,489,959	181,953	16,774,587	226,245,896
2032	226,245,896	5,903,378	20,276,353	187,866	16,980,352	228,665,407
2033	228,665,407	5,826,448	21,080,686	193,972	17,134,120	230,351,318
2034	230,351,318	5,736,928	21,923,723	200,276	17,229,076	231,193,323
2035	231,193,323	5,641,735	22,786,143	206,785	17,257,669	231,099,800
2036	231,099,800	5,543,323	23,606,079	213,506	17,215,244	230,038,781
2037	230,038,781	5,460,275	24,327,587	220,445	17,102,156	228,053,180
2038	228,053,180	5,397,761	24,924,499	227,609	16,922,923	225,221,755
2039	225,221,755	5,351,196	25,428,534	235,006	16,682,269	221,591,680
2040	221,591,680	5,326,337	25,839,334	242,644	16,384,081	217,220,121
2041	217,220,121	5,328,146	26,119,005	250,530	16,034,419	212,213,151
2042	212,213,151	5,353,907	26,297,416	258,672	15,640,264	206,651,234
2043	206,651,234	5,403,700	26,388,282	267,079	15,207,334	200,606,907
2044	200,606,907	5,463,583	26,430,713	275,759	14,739,233	194,103,252
2045	194,103,252	5,544,745	26,395,295	284,721	14,239,292	187,207,272
2046	187,207,272	5,653,462	26,266,394	293,974	13,713,537	180,013,903
2047	180,013,903	5,794,364	26,037,139	303,528	13,169,764	172,637,363
2048	172,637,363	5,972,716	25,695,070	313,393	12,617,497	165,219,113
2049	165,219,113	6,185,760	25,257,713	323,578	12,066,928	157,890,511
2050	157,890,511	6,424,376	24,754,238	334,094	11,526,781	150,753,336
2051	150,753,336	6,685,348	24,201,233	344,952	11,004,190	143,896,689
2052	143,896,689	6,961,361	23,621,800	356,163	10,504,904	137,384,991
2053	137,384,991	7,254,927	23,013,174	367,738	10,034,114	131,293,120
2054	131,293,120	7,561,445	22,392,748	379,689	9,596,789	125,678,917
2055	125,678,917	7,880,809	21,763,615	392,029	9,197,287	120,601,369
2056	120,601,369	8,213,985	21,125,225	404,770	8,840,239	116,125,597
2057	116,125,597	8,561,592	20,476,985	417,925	8,530,735	112,323,014
2058	112,323,014	8,924,289	19,818,364	431,508	8,274,356	109,271,787
2059	109,271,787	9,302,696	19,148,708	445,532	8,077,207	107,057,450
2060	107,057,450	9,697,421	18,467,571	460,012	7,945,957	105,773,246
2061	105,773,246	10,109,106	17,774,479	474,962	7,887,874	105,520,785
2062	105,520,785	10,538,433	17,069,377	490,398	7,910,860	106,410,303
2063	106,410,303	10,986,174	16,352,807	506,336	8,023,467	108,560,801
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SINGLE DISCOUNT RATE DEVELOPMENT PROJECTION

### OF PLAN FIDUCIARY NET POSITION ENDING DECEMBER 31 FOR 2064 TO 2113

Year	Projected Beginning Plan Net Position	ginning Total Proje		Projected Administrative Expenses	Projected Investment Earnings at 7.750%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
2064	\$ 108,560,801	\$ 11,453,138	\$ 15,625,572	\$ 522,792	\$ 8,234,917	\$ 112,100,492
2065	112,100,492	11,940,153	14,888,519	539,783	8,555,144	117,167,488
2066	117,167,488	12,448,064	14,142,431	557,326	8,994,855	123,910,650
2067	123,910,650	12,977,719	13,388,226	575,439	9,565,583	132,490,287
2068	132,490,287	13,530,006	12,627,360	594,141	10,279,729	143,078,520
2069	143,078,520	14,105,828	11,862,009	613,451	11,150,583	155,859,472
2070	155,859,472	14,706,123	11,094,415	633,388	12,192,366	171,030,157
2071	171,030,157	15,331,893	10,326,998	653,973	13,420,290	188,801,369
2072	188,801,369	15,984,193	9,562,564	675,227	14,850,624	209,398,395
2073	209,398,395	16,664,164	8,804,196	697,172	16,500,755	233,061,946
2074	233,061,946	17,372,983	8,055,710	719,830	18,389,236	260,048,625
2075	260,048,625	18,111,878	7,321,158	743,224	20,535,844	290,631,965
2076	290,631,965	18,882,100	6,604,807	767,379	22,961,664	325,103,544
2077	325,103,544	19,684,944	5,911,078	792,319	25,689,174	363,774,264
2078	363,774,264	20,521,756	5,243,965	818,069	28,742,365	406,976,350
2079	406,976,350	21,393,963	4,607,484	844,656	32,146,886	455,065,060
2080	455,065,060	22,303,071	4,006,008	872,107	35,930,161	508,420,177
2081	508,420,177	23,250,678	3,443,646	900,450	40,121,524	567,448,283
2082	567,448,283	24,238,451	2,924,688	929,715	44,752,386	632,584,717
2083	632,584,717	25,268,145	2,453,018	959,931	49,856,403	704,296,315
2084	704,296,315	26,341,575	2,031,381	991,129	55,469,718	783,085,097
2085	783,085,097	27,460,626	1,660,871	1,023,341	61,631,267	869,492,779
2086	869,492,779	28,627,242	1,340,960	1,056,600	68,383,126	964,105,587
2087	964,105,587	29,843,452	1,069,324	1,090,940	75,770,891	1,067,559,666
2088	1,067,559,666	31,111,364	842,338	1,126,396	83,844,080	1,180,546,376
2089	1,180,546,376	32,433,194	655,373	1,163,004	92,656,533	1,303,817,727
2090	1,303,817,727	33,811,247	503,281	1,200,802	102,266,812	1,438,191,702
2091	1,438,191,702	35,247,940	381,139	1,239,828	112,738,589	1,584,557,264
2092	1,584,557,264	36,745,779	284,349	1,280,122	124,141,027	1,743,879,599
2093	1,743,879,599	38,307,370	208,859	1,321,726	136,549,179	1,917,205,562
2094	1,917,205,562	39,935,422	150,985	1,364,682	150,044,418	2,105,669,735
2095	2,105,669,735	41,632,749	107,455	1,409,034	164,714,904	2,310,500,900
2096	2,310,500,900	43,402,282	75,295	1,454,828	180,656,091	2,533,029,150
2097	2,533,029,150	45,247,077	51,987	1,502,110	197,971,271	2,774,693,400
2098	2,774,693,400	47,170,316	35,400	1,550,929	216,772,160	3,037,049,547
2099	3,037,049,547	49,175,323	23,787	1,601,334	237,179,530	3,321,779,280
2100	3,321,779,280	51,265,561	15,783	1,653,377	259,323,895	3,630,699,576
2101	3,630,699,576	53,444,639	10,340	1,707,112	283,346,246	3,965,773,009
2102	3,965,773,009	55,716,324	6,690	1,762,593	309,398,851	4,329,118,902
2103	4,329,118,902	58,084,537	4,285	1,819,877	337,646,127	4,723,025,404
2104	4,723,025,404	60,553,372	2,714	1,879,023	368,265,574	5,149,962,612
2105	5,149,962,612	63,127,094	1,694	1,940,091	401,448,795	5,612,596,716
2106	5,612,596,716	65,810,155	1,024	2,003,144	437,402,594	6,113,805,297
2107	6,113,805,297	68,607,199	588	2,068,246	476,350,163	6,656,693,825
2108	6,656,693,825	71,523,069	314	2,135,464	518,532,360	7,244,613,476
2109	7,244,613,476	74,562,816	151	2,204,867	564,209,093	7,881,180,366
2110	7,881,180,366	77,731,711	66	2,276,525	613,660,808	8,570,296,295
2111	8,570,296,295	81,035,244	27	2,350,512	667,190,104	9,316,171,103
2112	9,316,171,103	84,479,144	9	2,426,904	725,123,459	10,123,346,793
2113	10,123,346,793	88,069,381	2	2,505,778	787,813,101	10,996,723,496
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### SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS ENDING DECEMBER 31 FOR 2014 TO 2063

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (y)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of All Benefit Payments using Single Discount Rate (SDR)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)5)	(g)=(e)*vf ^((a)5)	(h)=((c)/(1+SDR)^(a5)
2014	\$ 121,363,344	\$ 8,732,855	\$ 8,732,855	\$ -	\$ 8,412,936	\$ -	\$ 8,412,936
2015	124,821,143	9,059,651	9,059,651	-	8,100,010	_	8,100,010
2016	131,715,824	9,524,148	9,524,148	_	7,902,835	_	7,902,835
2017	138,798,704	10,042,124	10,042,124	_	7,733,305	_	7,733,305
2018	145,875,208	10,599,774	10,599,774	_	7,575,632	_	7,575,632
2019	152,891,119	11,169,636	11,169,636	_	7,408,734	_	7,408,734
2020	159,819,200	11,715,706	11,715,706	-	7,212,007	_	7,212,007
2021	166,689,683	12,274,186	12,274,186	_	7,012,342	_	7,012,342
2022	173,502,181	12,833,450	12,833,450	-	6,804,505	-	6,804,505
2023	180,249,602	13,436,578	13,436,578	-	6,611,873	_	6,611,873
2024	186,869,283	14,130,066	14,130,066	-	6,453,016	_	6,453,016
2025	193,236,062	14,851,837	14,851,837	-	6,294,793	_	6,294,793
2026	199,290,252	15,551,459	15,551,459	_	6,117,235	_	6,117,235
2027	205,027,436	16,288,454	16,288,454	_	5,946,297	_	5,946,297
2028	210,373,930	17,073,110	17,073,110	_	5,784,450	_	5,784,450
2029	215,241,052	17,931,891	17,931,891	_	5,638,431	_	5,638,431
2030	219,499,619	18,733,142	18,733,142	_	5,466,704	_	5,466,704
2031	223,165,738	19,489,959	19,489,959	_	5,278,476	_	5,278,476
2032	226,245,896	20,276,353	20,276,353	_	5,096,478	_	5,096,478
2033	228,665,407	21,080,686	21,080,686	_	4,917,539	_	4,917,539
2034	230,351,318	21,923,723	21,923,723	_	4,746,354	_	4,746,354
2035	231,193,323	22,786,143	22,786,143	_	4,578,248	_	4,578,248
2036	231,099,800	23,606,079	23,606,079	_	4,401,848	_	4,401,848
2037	230,038,781	24,327,587	24,327,587	_	4,210,106	_	4,210,106
2038	228,053,180	24,924,499	24,924,499	_	4,003,162	_	4,003,162
2039	225,221,755	25,428,534	25,428,534	_	3,790,362	_	3,790,362
2040	221,591,680	25,839,334	25,839,334	_	3,574,567	_	3,574,567
2041	217,220,121	26,119,005	26,119,005	_	3,353,370	_	3,353,370
2042	212,213,151	26,297,416	26,297,416	_	3,133,435	_	3,133,435
2043	206,651,234	26,388,282	26,388,282	_	2,918,108	_	2,918,108
2044	200,606,907	26,430,713	26,430,713	_	2,712,576	_	2,712,576
2045	194,103,252	26,395,295	26,395,295	_	2,514,098	_	2,514,098
2046	187,207,272	26,266,394	26,266,394	_	2,321,875	_	2,321,875
2047	180,013,903	26,037,139	26,037,139	_	2,136,065	_	2,136,065
2048	172,637,363	25,695,070	25,695,070	_	1,956,382	_	1,956,382
2049	165,219,113	25,257,713	25,257,713	_	1,784,763	_	1,784,763
2050	157,890,511	24,754,238	24,754,238	_	1,623,375	_	1,623,375
2051	150,753,336	24,201,233	24,201,233	_	1,472,955	_	1,472,955
2052	143,896,689	23,621,800	23,621,800	_	1,334,282	_	1,334,282
2053	137,384,991	23,013,174	23,013,174	_	1,206,407	_	1,206,407
2054	131,293,120	22,392,748	22,392,748	_	1,089,451	_	1,089,451
2055	125,678,917	21,763,615	21,763,615	_	982,684	_	982,684
2056	120,601,369	21,125,225	21,125,225	_	885,252	_	885,252
2057	116,125,597	20,476,985	20,476,985	-	796,369	-	796,369
2058	112,323,014	19,818,364	19,818,364	_	715,318	_	715,318
2059	109,271,787	19,148,708	19,148,708	-	641,436	-	641,436
2060	107,057,450	18,467,571	18,467,571	_	574,125	_	574,125
2061	105,773,246	17,774,479	17,774,479	_	512,833	_	512,833
2062	105,520,785	17,069,377	17,069,377	_	457,067	_	457,067
2063	106,410,303	16,352,807	16,352,807	_	406,384	_	406,384
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# SINGLE DISCOUNT RATE DEVELOPMENT PRESENT VALUES OF PROJECTED BENEFITS ENDING DECEMBER 31 FOR 2064 TO 2113 (CONCLUDED)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Projected Benefit Payments	Unfunded Portion of Projected Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (y)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of All Benefit Payments using Single Discount Rate (SDR)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)5)	(g)=(e)*vf ^((a)5)	(h)=((c)/(1+SDR)^(a5)
2064	\$ 108,560,801	\$ 15,625,572	\$ 15,625,572	¢	\$ 360,382	\$ -	\$ 360,382
2065	112,100,492	14,888,519	14,888,519	<b>.</b>	318,685	φ -	318,685
2066	117,167,488	14,142,431	14,142,431	_	280,942	_	280,942
2067	123,910,650	13,388,226	13,388,226	-	246,830	-	246,830
2068	132,490,287		12,627,360	-	216,058	-	216,058
2069	143,078,520	12,627,360 11,862,009	11,862,009	-	188,365	-	188,365
2009	155,859,472	11,094,415	11,094,415	-	163,504	-	163,504
2070	171,030,157	10,326,998	10,326,998	-	141,247	_	141,247
2072	188,801,369	9,562,564	9,562,564		121,385		121,385
2072	209,398,395	8,804,196	8,804,196		103,720		103,720
2074	233,061,946	8,055,710	8,055,710		88,076		88,076
2075	260,048,625	7,321,158	7,321,158		74,288	_	74,288
2076	290,631,965	6,604,807	6,604,807		62,199	_	62,199
2077	325,103,544	5,911,078	5,911,078	_	51,662	_	51,662
2078	363,774,264	5,243,965	5,243,965	_	42,535	_	42,535
2079	406,976,350	4,607,484	4,607,484	_	34,684	_	34,684
2080	455,065,060	4,006,008	4,006,008	_	27,987	-	27,987
2081	508,420,177	3,443,646	3,443,646	_	22,328	-	22,328
2082	567,448,283	2,924,688	2,924,688	_	17,599	_	17,599
2083	632,584,717	2,453,018	2,453,018	_	13,699	_	13,699
2084	704,296,315	2,031,381	2,031,381	_	10,529	_	10,529
2085	783,085,097	1,660,871	1,660,871	-	7,989	-	7,989
2086	869,492,779	1,340,960	1,340,960	-	5,986	-	5,986
2087	964,105,587	1,069,324	1,069,324	-	4,430	-	4,430
2088	1,067,559,666	842,338	842,338	-	3,239	-	3,239
2089	1,180,546,376	655,373	655,373	-	2,339	-	2,339
2090	1,303,817,727	503,281	503,281	-	1,667	-	1,667
2091	1,438,191,702	381,139	381,139	-	1,172	-	1,172
2092	1,584,557,264	284,349	284,349	-	811	-	811
2093	1,743,879,599	208,859	208,859	-	553	-	553
2094	1,917,205,562	150,985	150,985	-	371	-	371
2095	2,105,669,735	107,455	107,455	-	245	-	245
2096	2,310,500,900	75,295	75,295	-	159	-	159
2097	2,533,029,150	51,987	51,987	-	102	-	102
2098	2,774,693,400	35,400	35,400	-	65	-	65
2099	3,037,049,547	23,787	23,787	-	40	-	40
2100	3,321,779,280	15,783	15,783	-	25	-	25
2101	3,630,699,576	10,340	10,340	-	15	-	15
2102	3,965,773,009	6,690	6,690	-	9	-	9
2103	4,329,118,902	4,285	4,285	-	5	-	5
2104	4,723,025,404	2,714	2,714	-	3	-	3
2105	5,149,962,612	1,694	1,694	-	2	-	2
2106	5,612,596,716	1,024	1,024	-	1	-	1
2107	6,113,805,297	588	588	-	1	-	1
2108	6,656,693,825	314	314	-	0	-	0
2109	7,244,613,476	151	151	-	0	-	0
2110	7,881,180,366	66	66	-	0	-	0
2111	8,570,296,295	27	27	-	0	-	0
2112	9,316,171,103	9	9	-	0	-	0
2113	10,123,346,793	2	2	-	0	-	0
				Totals	\$ 199,216,791	\$ -	\$ 199,216,791



Actuarial Accrued Liability (AAL)

The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."

**Actuarial Assumptions** 

These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.

Accrued Service

Service credited under the system which was rendered before the date of the actuarial valuation.

Actuarial Equivalent

A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

Actuarial Cost Method

A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.

Actuarial Gain (Loss)

The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.

Actuarial Present Value (APV)

The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.

**Actuarial Valuation** 

The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.

**Actuarial Valuation Date** 

The date as of which an actuarial valuation is performed.

Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC) A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

**Amortization Payment** 

The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.

Amortization Method

The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be "open" (meaning, reset each year) or "closed" (the number of years remaining will decline each year.

Cost-of-Living Adjustments

Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.

Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan) A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.

Covered-Employee Payroll

The payroll of employees that are provided with pensions through the pension plan.

Deferred Retirement Option Program (DROP)

A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.

Deferred Inflows and Outflows

The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.

Discount Rate

For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically:

- 1. The benefit payments to be made while the pension plans' fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and
- 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

### Entry Age Actuarial Cost Method (EAN)

The EAN is a cost method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.

**GASB** 

The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.

Fiduciary Net Position

The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.

Long-Term Expected Rate of Return

The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.

Money-Weighted Rate of Return

The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.

Multiple-Employer Defined Benefit Pension Plan A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.

Municipal Bond Rate

The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.

Net Pension Liability (NPL)

The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.

Non-Employer Contribution Entities

Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contribution entities.

Normal Cost

The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.

Other Postemployment Benefits (OPEB) All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.

Real Rate of Return

The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.

Service Cost

The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

Total Pension Expense

The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:

- Service Cost
- 2. Interest on the Total Pension Liability
- 3. Current-Period Benefit Changes
- 4. Employee Contributions (made negative for addition here)
- 5. Projected Earnings on Plan Investments (made negative for addition here)
- 6. Pension Plan Administrative Expense
- 7. Other Changes in Plan Fiduciary Net Position
- 8. Recognition of Outflow (Inflow) of Resources due to Liabilities
- 9. Recognition of Outflow (Inflow) of Resources due to Assets

Total Pension Liability (TPL)

The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.

Unfunded Actuarial Accrued Liability (UAAL)

The UAAL is the difference between actuarial accrued liability and valuation assets.

Valuation Assets

The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.